Datasheet for ABIN6256503

anti-ERK1 antibody (pThr202, pTyr204)

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Overview

Quantity:	100 µL
Target:	ERK1 (MAPK3)
Binding Specificity:	pThr202, pTyr204
Reactivity:	Human, Mouse, Rat
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This ERK1 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC), Immunofluorescence (IF), Immunocytochemistry (ICC)

Product Details

Immunogen:	A synthesized peptide derived from human ERK1/2 around the phosphorylation site of Thr202/Tyr204.
Isotype:	IgG
Specificity:	Phospho-ERK1/2 (Thr202/Tyr204) Antibody detects endogenous levels of ERK1/2 only when phosphorylated at Threonine 202/Tyrosine 204.
Predicted Reactivity:	Pig,Zebrafish,Bovine,Horse,Sheep,Rabbit
Purification:	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho- and non-phospho-peptide affinity columns.

Target Details

Target:	ERK1 (MAPK3)
Alternative Name:	MAPK3,MAPK1 (MAPK3 Products)
Background:	Description: Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK1/ERK2 and MAPK3/ERK1 are the 2 MAPKs which play an important role in the MAPK/ERK cascade. They participate also in a signaling cascade initiated by activated KIT and KITLG/SCF. Depending on the cellular context, the MAPK/ERK cascade mediates diverse biological functions such as cell growth, adhesion, survival and differentiation through the regulation of transcription, translation, cytoskeletal rearrangements. The MAPK/ERK cascade plays also a role in initiation and regulation of meiosis, mitosis, and postmitotic functions in differentiated cells by phosphorylating a number of transcription factors. About 160 substrates have already been discovered for ERKs. Many of these substrates are localized in the nucleus, and seem to participate in the regulation of transcription upon stimulation. However, other substrates are found in the cytosol as well as in other cellular organelles, and those are responsible for processes such as translation, mitosis and apoptosis. Moreover, the MAPK/ERK cascade is also involved in the regulation of the endosomal dynamics, including lysosome processing and endosome cycling through the perinuclear recycling compartment (PNRC), as well as in the fragmentation of the Golgi apparatus during mitosis. The substrates include transcription factors (such as ATF2, BCL6, ELK1, ERF, FOS, HSF4 or SPZ1), cytoskeletal elements (such as CANX, CTTN, GJA1, MAP2, MAPT, PXN, SORBS3 or STMN1), regulators of apoptosis (such as BAD, BTG2, CASP9, DAPK1, IER3, MCL1 or PPARG), regulators of translation (such as EIF4EBP1) and a variety of other signaling-related molecules (like ARHGEF2, FRS2 or GRB10). Protein kinases (such as RAF1, RPS6KA1/RSK1, RPS6KA3/RSK2, RPS6KA2/RSK3, RPS6KA6/RSK4, SYK, MKNK1/MNK1, MKNK2/MNK2, RPS6KA5/MSK1, RPS6KA4/MSK2, MAPKAPK3 or MAPKAPK5) and phosphatases (such as DUSP1, DUSP4, DUSP6 or DUSP16) are other substrates which enable the propagation the MAPK/ERK signal to additional cytosolic and nuclear targets, thereby extending the specificity of the cascade. Gene: MAPK3
Molecular Weight:	42,44kDa
Gene ID:	5595, 5594
UniProt:	P27361, P28482
Pathways:	MAPK Signaling, RTK Signaling, Interferon-gamma Pathway, Fc-epsilon Receptor Signaling Pathway, Neurotrophin Signaling Pathway, Response to Growth Hormone Stimulus, Activation of Innate immune Response, Cellular Response to Molecule of Bacterial Origin, Hepatitis C,

Target Details

	Protein targeting to Nucleus, Toll-Like Receptors Cascades, Signaling Events mediated by VEGFR1 and VEGFR2, Signaling of Hepatocyte Growth Factor Receptor, VEGFR1 Specific Signals, S100 Proteins

Application Details

Application Notes:	WB 1:500-1:2000, IHC 1:50-1:200, IF/ICC 1:200, ELISA(peptide) 1:20000-1:40000
Restrictions:	For Research Use only

Handling

Format:	Liquid
Concentration:	1 mg/mL
Buffer:	Rabbit IgG in phosphate buffered saline , pH 7.4, 150 mM NaCl, 0.02 % sodium azide and 50 % glycerol.
Preservative:	Sodium azide
Precaution of Use:	This product contains Sodium azide: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.
Storage:	-20 °C
Storage Comment:	Store at -20 °C. Stable for 12 months from date of receipt.
Expiry Date:	12 months

Publications

Product cited in:	Deng, Cheng, Wu, Wang, Zhou, Huang: "Oxabicycloheptene Sulfonate Protects Against β-Amyloid-induced Toxicity by Activation of PI3K/Akt and ERK Signaling Pathways Via GPER1 in C6 Cells." in: **Neurochemical research**, Vol. 42, Issue 8, pp. 2246-2256, (2018) (PubMed). Li, Xiong, Xu, Duan, Yang, Zhou, Tu: "miR-29a regulated ER-positive breast cancer cell growth and invasion and is involved in the insulin signaling pathway." in: **Oncotarget**, Vol. 8, Issue 20, pp. 32566-32575, (2018) (PubMed). Xie, Cao, Yang, Xu, Wei, Wang: "Relaxin Attenuates Contrast-Induced Human Proximal Tubular Epithelial Cell Apoptosis by Activation of the PI3K/Akt Signaling Pathway In Vitro." in: **BioMed research international**, Vol. 2017, pp. 2869405, (2018) (PubMed).

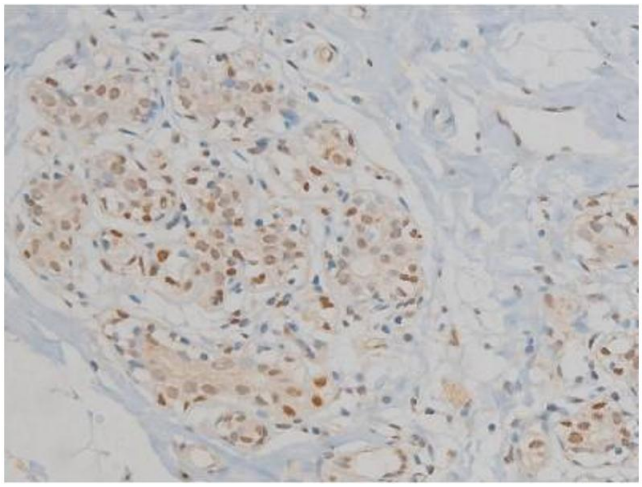
Publications

Peng, Wu, Deng, Zhou, Song, Yang, Zhang, Xu, Xia, Cai, Liu, Peng: "MiR-377 promotes white adipose tissue inflammation and decreases insulin sensitivity in obesity via suppression of sirtuin-1 (SIRT1)." in: **Oncotarget**, Vol. 8, Issue 41, pp. 70550-70563, (2018) (PubMed).

Li, Zhang, Jin, Zou, Wang, Hao, Fu, Jiao, Zhang, Lin, Matsuzaki, Zhao: "Dysifragilone A inhibits LPS-induced RAW264.7 macrophage activation by blocking the p38 MAPK signaling pathway." in: **Molecular medicine reports**, Vol. 17, Issue 1, pp. 674-682, (2018) (PubMed).

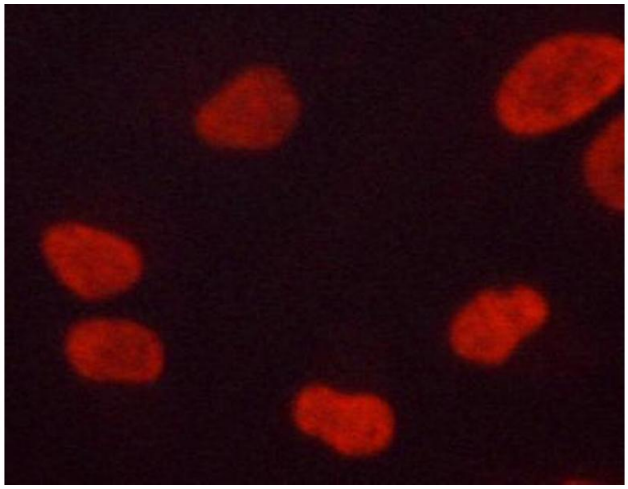
There are more publications referencing this product on: Product page

Images



Immunohistochemistry

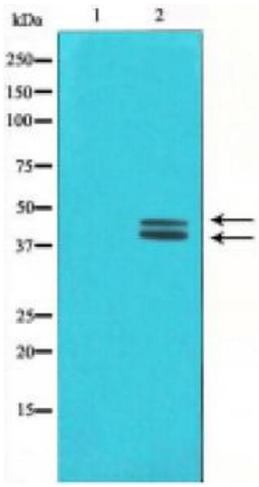
Image 1. ABIN6267060 at 1/200 staining Human heart tissue sections by IHC-P. The tissue was formaldehyde fixed and a heat mediated antigen retrieval step in citrate buffer was performed. The tissue was then blocked and incubated with the antibody for 1.5 hours at 22°C. An HRP conjugated goat anti-rabbit antibody was used as the secondary.



Immunofluorescence (fixed cells)

Image 2. ABIN6267060 staining lovo cells by ICC/IF. Cells were fixed with PFA and permeabilized in 0.1% saponin prior to blocking in 10% serum for 45 minutes at 37°C. The primary antibody was diluted 1/400 and incubated with the sample for 1 hour at 37°C. A Alexa Fluor® 594 conjugated goat polyclonal to rabbit IgG (H+L), diluted 1/600 was used as secondary antibody.

Images



Western Blotting

Image 3. Western blot analysis of ERK1/2 phosphorylation expression in HeLa whole cell lysates,The lane on the left is treated with the antigen-specific peptide.

Please check the product details page for more images. Overall 4 images are available for ABIN6256503.